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## RAW SEQUENCE LISTING

DATE: 05/01/2002

PATENT APPLICATION: US/10/032,827A

TIME: 12:01:18

Input Set : A:\seqlistcorrected.txt

Output Set: N:\CRF3\05012002\J032827A.raw

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3 <110> APPLICANT: Schwartz, John J.
4      Jacobson, Joseph
5      Dasgupta, Ruchira
7 <120> TITLE OF INVENTION: Engineered Stimulus-Responsive Switches
9 <130> FILE REFERENCE: ENZ-004
11 <140> CURRENT APPLICATION NUMBER: US 10/032,827A
12 <141> CURRENT FILING DATE: 2001-10-23
14 <150> PRIOR APPLICATION NUMBER: US 60/242,546
15 <151> PRIOR FILING DATE: 2000-10-23
17 <160> NUMBER OF SEQ ID NOS: 20
19 <170> SOFTWARE: PatentIn version 3.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 21
23 <212> TYPE: PRT
C--> 24 <213> ORGANISM: Artificial
26 <220> FEATURE:
27 <223> OTHER INFORMATION: Zinc finger consensus sequence
29 <220> FEATURE:
30 <221> NAME/KEY: misc_feature
31 <222> LOCATION: (2)..(3)
32 <223> OTHER INFORMATION: wherein Xaa at positions 2, 3 can be any amino acid
35 <220> FEATURE:
36 <221> NAME/KEY: misc_feature
37 <222> LOCATION: (5)..(7)
38 <223> OTHER INFORMATION: wherein Xaa at positions 5, 6, 7 can be any amino acid
41 <220> FEATURE:
42 <221> NAME/KEY: misc_feature
43 <222> LOCATION: (9)..(13)
44 <223> OTHER INFORMATION: wherein Xaa at positions 9, 10, 11, 12, 13 can be any amino
acid
47 <220> FEATURE:
48 <221> NAME/KEY: misc_feature
49 <222> LOCATION: (15)..(16)
50 <223> OTHER INFORMATION: wherein Xaa at positions 15, 16 can be any amino acid
53 <220> FEATURE:
54 <221> NAME/KEY: misc_feature
55 <222> LOCATION: (18)..(20)
56 <223> OTHER INFORMATION: wherein Xaa at positions 18, 19, 20 can be any amino acid
59 <400> SEQUENCE: 1
W--> 61 Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa
62 1          5          10          15
W--> 64 His Xaa Xaa Xaa His
65          20
67 <210> SEQ ID NO: 2

```

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68 <211> LENGTH: 22
69 <212> TYPE: PRT
C--> 70 <213> ORGANISM: Artificial
72 <220> FEATURE:
73 <223> OTHER INFORMATION: Zinc finger consensus sequence
75 <220> FEATURE:
76 <221> NAME/KEY: misc_feature
77 <222> LOCATION: (2)..(4)
78 <223> OTHER INFORMATION: wherein Xaa at positions 2, 3, 4 can be any amino acid
81 <220> FEATURE:
82 <221> NAME/KEY: misc_feature
83 <222> LOCATION: (6)..(8)
84 <223> OTHER INFORMATION: wherein Xaa at positions 6, 7, 8 can be any amino acid
87 <220> FEATURE:
88 <221> NAME/KEY: misc_feature
89 <222> LOCATION: (10)..(14)
90 <223> OTHER INFORMATION: wherein Xaa at positions 10, 11, 12, 13, 14 can be any amino
acid
93 <220> FEATURE:
94 <221> NAME/KEY: misc_feature
95 <222> LOCATION: (16)..(17)
96 <223> OTHER INFORMATION: wherein Xaa at positions 16, 17 can be any amino acid
99 <220> FEATURE:
100 <221> NAME/KEY: misc_feature
101 <222> LOCATION: (19)..(21)
102 <223> OTHER INFORMATION: wherein Xaa at positions 19, 20, 21 can be any amino acid
105 <400> SEQUENCE: 2
W--> 107 Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa
108 1 5 10 15
W--> 110 Xaa His Xaa Xaa Xaa His
111 20
113 <210> SEQ ID NO: 3
114 <211> LENGTH: 23
115 <212> TYPE: PRT
C--> 116 <213> ORGANISM: Artificial
118 <220> FEATURE:
119 <223> OTHER INFORMATION: Zinc finger consensus sequence
121 <220> FEATURE:
122 <221> NAME/KEY: misc_feature
123 <222> LOCATION: (2)..(5)
124 <223> OTHER INFORMATION: wherein Xaa at positions 2, 3, 4, 5 can be any amino acid
127 <220> FEATURE:
128 <221> NAME/KEY: misc_feature
129 <222> LOCATION: (7)..(9)
130 <223> OTHER INFORMATION: wherein Xaa at positions 7, 8, 9 can be any amino acid
133 <220> FEATURE:
134 <221> NAME/KEY: misc_feature
135 <222> LOCATION: (11)..(15)
136 <223> OTHER INFORMATION: wherein Xaa at positions 11, 12, 13, 14, 15 can be any amino
acid
139 <220> FEATURE:

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```

140 <221> NAME/KEY: misc_feature
141 <222> LOCATION: (17)..(18)
142 <223> OTHER INFORMATION: wherein Xaa at positions 17, 18 can be any amino acid
145 <220> FEATURE:
146 <221> NAME/KEY: misc_feature
147 <222> LOCATION: (20)..(22)
148 <223> OTHER INFORMATION: wherein Xaa at positions 20, 21, 22 can be any amino acid
151 <400> SEQUENCE: 3
W--> 153 Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
      154 1          5          10          15
W--> 156 Xaa Xaa His Xaa Xaa His
      157          20
159 <210> SEQ ID NO: 4
160 <211> LENGTH: 21
161 <212> TYPE: PRT
C--> 162 <213> ORGANISM: Artificial
164 <220> FEATURE:
165 <223> OTHER INFORMATION: Zinc finger consensus sequence
167 <220> FEATURE:
168 <221> NAME/KEY: misc_feature
169 <222> LOCATION: (2)..(3)
170 <223> OTHER INFORMATION: wherein Xaa at positions 2, 3 can be any amino acid
173 <220> FEATURE:
174 <221> NAME/KEY: misc_feature
175 <222> LOCATION: (4)..(16)
176 <223> OTHER INFORMATION: wherein Xaa at positions 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,
15, 1
177          6, 17 can be any amino aci
180 <220> FEATURE:
181 <221> NAME/KEY: misc_feature
182 <223> OTHER INFORMATION: wherein Xaa at positions 19, 20 can be any amino acid
185 <400> SEQUENCE: 4
W--> 187 Cys Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      188 1          5          10          15
W--> 190 Xaa Cys Xaa Xaa Cys
      191          20
193 <210> SEQ ID NO: 5
194 <211> LENGTH: 7
195 <212> TYPE: PRT
C--> 196 <213> ORGANISM: Artificial
198 <220> FEATURE:
199 <223> OTHER INFORMATION: target sequence for protein kinase A
201 <400> SEQUENCE: 5
203 Leu Arg Arg Ala Ser Leu Gly
204 1          5
206 <210> SEQ ID NO: 6
207 <211> LENGTH: 10
208 <212> TYPE: PRT
C--> 209 <213> ORGANISM: Artificial
211 <220> FEATURE:

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212 <223> OTHER INFORMATION: substrate for casein kinase II
214 <400> SEQUENCE: 6
216 Arg Arg Arg Glu Glu Glu Thr Glu Glu Glu
217 1 5 10
219 <210> SEQ ID NO: 7
220 <211> LENGTH: 12
221 <212> TYPE: PRT
C--> 222 <213> ORGANISM: Artificial
224 <220> FEATURE:
225 <223> OTHER INFORMATION: substrate sequence for v-Abl tyrosine kinase
227 <400> SEQUENCE: 7
229 Glu Ala Ile Tyr Ala Ala Pro Phe Ala Lys Lys Lys
230 1 5 10
232 <210> SEQ ID NO: 8
233 <211> LENGTH: 27
234 <212> TYPE: DNA
C--> 235 <213> ORGANISM: Artificial
237 <220> FEATURE:
238 <223> OTHER INFORMATION: primer for leucine zipper motif
240 <400> SEQUENCE: 8
241 atcgcgca tgaacaact tgaagac 27
244 <210> SEQ ID NO: 9
245 <211> LENGTH: 22
246 <212> TYPE: DNA
C--> 247 <213> ORGANISM: Artificial
249 <220> FEATURE:
250 <223> OTHER INFORMATION: primer for leucine zipper motif
252 <400> SEQUENCE: 9
253 tcagcggtcg ccaactaatt tc 22
256 <210> SEQ ID NO: 10
257 <211> LENGTH: 26
258 <212> TYPE: DNA
C--> 259 <213> ORGANISM: Artificial
261 <220> FEATURE:
262 <223> OTHER INFORMATION: primer for lambda repressor
264 <400> SEQUENCE: 10
265 atgagcaca aaaagaaacc attaac 26
268 <210> SEQ ID NO: 11
269 <211> LENGTH: 18
270 <212> TYPE: DNA
C--> 271 <213> ORGANISM: Artificial
273 <220> FEATURE:
274 <223> OTHER INFORMATION: primer for lambda repressor
276 <400> SEQUENCE: 11
277 gcttaccag cgctccgc 18
280 <210> SEQ ID NO: 12
281 <211> LENGTH: 504
282 <212> TYPE: DNA
C--> 283 <213> ORGANISM: Artificial

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## RAW SEQUENCE LISTING

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Input Set : A:\seqlistcorrected.txt

Output Set: N:\CRF3\05012002\J032827A.raw

285 &lt;220&gt; FEATURE:

286 &lt;223&gt; OTHER INFORMATION: cI-bZIP repressor variant

288 &lt;400&gt; SEQUENCE: 12

```

289 atgagcacaa aaaagaaacc attaacacaa gagcagcttg aggacgcacg tcgccttaaa      60
291 gcaatttatg aaaaaaagaa aaatgaactt ggcttatccc aggaatctgt cgcagacaag      120
293 atgggggatgg ggcagtcagg cgttggtgct ttatttaatg gcatcaatgc attaaatgct      180
295 tataacgccg cattgcttac aaaaattctc aaagtttagcg ttgaagaatt tagcccttca      240
297 atggccagag aaatctacga gatgtatgaa gcggttagta tgcagccgctc acttagaagt      300
299 gagtatgagt accctgtttt ttctcatgtt caggcagggg tgttctcacc taagcttaga      360
301 accctttacca aaggtgatgc ggagcgctgg gtaagcatcg cgcacatgaa acaacttgaa      420
303 gacaagggttg aagaattgct ttcgaaaaat tatcacttgg aaaatgaggt tgccagatta      480
305 aaqaaattag ttggcgaacg ctga                                     504

```

308 &lt;210&gt; SEQ ID NO: 13

309 &lt;211&gt; LENGTH: 35

310 &lt;212&gt; TYPE: DNA

C--&gt; 311 &lt;213&gt; ORGANISM: Artificial

313 &lt;220&gt; FEATURE:

314 &lt;223&gt; OTHER INFORMATION: primer for coding sequence of a temperature sensitive form of the

315 lambda repressor containing an AvaI sit

317 &lt;400&gt; SEQUENCE: 13

```

318 ttacaacgcc cgggtcagcc aaacgtctct tcagg                                     35

```

321 &lt;210&gt; SEQ ID NO: 14

322 &lt;211&gt; LENGTH: 71

323 &lt;212&gt; TYPE: DNA

C--&gt; 324 &lt;213&gt; ORGANISM: Artificial

326 &lt;220&gt; FEATURE:

327 &lt;223&gt; OTHER INFORMATION: primer for the coding sequence of a temperature sensitive form of

328 lambda represso

330 &lt;400&gt; SEQUENCE: 14

```

331 atgggcattt tctcgagtca gccggggccat accccgcata cggcggccag cacaaaaaag      60
333 aaaccattaa c                                     71

```

336 &lt;210&gt; SEQ ID NO: 15

337 &lt;211&gt; LENGTH: 784

338 &lt;212&gt; TYPE: DNA

C--&gt; 339 &lt;213&gt; ORGANISM: Artificial

341 &lt;220&gt; FEATURE:

342 &lt;223&gt; OTHER INFORMATION: TBD-cI chimeric repressor variant

344 &lt;400&gt; SEQUENCE: 15

```

345 atgggcattt tctcgagtca gccggggccat accccgcata cattaacaca agagcagcac      60
347 aaaaaaagaaa ccattaacac aagagcagct tgaggacgca cgtcgctta aagcaattta      120
349 tgaaaaaaag aaaaatgaac ttggcttata ccaggaatct gtcgcagaca agatggggat      180
351 ggggcagtcg ggcgttggtg ctttatTTaa tggcatcaat gcattaaatg cttataacgc      240
353 cgcattgctt acaaaaattc tcaaagttag cgttgaagaa tttagccctt caatcgccag      300
355 aqaaatctac gagatgtatg aagcggttag tatgcagccg tcacttagaa gtgagtatga      360
357 gtaccctgtt catcaccata accatcactt ttctcatgtt caggcagggg tgttctcacc      420
359 taagcttaga accctttacca aaggtgatgc ggagagatgg gtaagcaca ccaaaaaaagc      480
361 cagtgtattct gcattctggc ttgaggttga aggtaattcc atgaccgcac caacaggtc      540
363 caagccaagc tttcctgacg gaatgttaat tctcgttgac cctgagcagg ctgttgagcc      600
365 aqgtgatttc tgcatagccg gacttggggg tgatgagttt accttcaaga aactgatcag      660

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/032,827A

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 2,3,5,6,7,9,10,11,12,13,15,16,18,19,20  
Seq#:2; Xaa Pos. 2,3,4,6,7,8,10,11,12,13,14,16,17,19,20,21  
Seq#:3; Xaa Pos. 2,3,4,5,7,8,9,11,12,13,14,15,17,18,20,21,22  
Seq#:4; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,19,20

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/032,827A

DATE: 05/01/2002

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Input Set : A:\seqlistcorrected.txt

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L:24 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:1  
L:61 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0  
L:64 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:16  
L:70 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:2  
L:107 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
L:110 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:16  
L:116 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:3  
L:153 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:16  
L:162 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:4  
L:187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
L:190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:16  
L:196 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:5  
L:209 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:6  
L:222 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:7  
L:235 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:8  
L:247 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:9  
L:259 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:10  
L:271 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:11  
L:283 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:12  
L:311 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:13  
L:324 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:14  
L:339 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:15  
L:377 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:16  
L:392 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:17  
L:422 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:18  
L:450 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:19  
L:463 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:20